Solar Wind Turbulence as Observed by the Ulysses Spacecraft: Power Spectra and Cross Spectra

13. E, Goldstein, E, J. Smith, J, Feynman, (Jet Propulsion Laboratory, California Institute of Technology, Pasadena), A. Ruzmaikin (Dept. of Phys. and Astron., Cal. State University, Northridge, CA), A. Balogh, T. Horbury (The Blackett Lab., Imperial College, London, SW7 2BZ, U.K.), J. L. Phillips (Los Alamos National Laboratory, Los Alamos, NM), M, L. Goldstein (Goddard Space Flight Center, Greenbelt, MD)

Observational properties of solar wind turbulence in the ecliptic and at high latitudes will be investigated using Ulysses plasma and magnetic field data. The power spectra of magnetic field, velocity, and pressure-related parameters will be presented, as will spectra of magnetic helicity, cross-helicity, and information as to directionality of the fluctuations. Theory indicates that compressional fluctuations may be related to pressure balance, or may be related to magneto sonic waves; the nature of this relationship may depend on both the ratio of plasma thermal pressure to magnetic pressure and the sign of the correlation between them. These possibilities will be discussed on the basis of the power-spectral and cross-spectral observations.

1.1994 Spring Meeting

2, 001297525 (AGU Member)

3a, B. E. Goldstein
Mail Stop 169/506
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109

3b. (818) 354-7366

4. SH

5. (a)
(b) 2149 MHD waves and turbulence, 2164 Solar Wind Plasma

6.

7. O%

8. Charge $50 to:
Bruce E, Goldstein

9. C

10, None

11. No